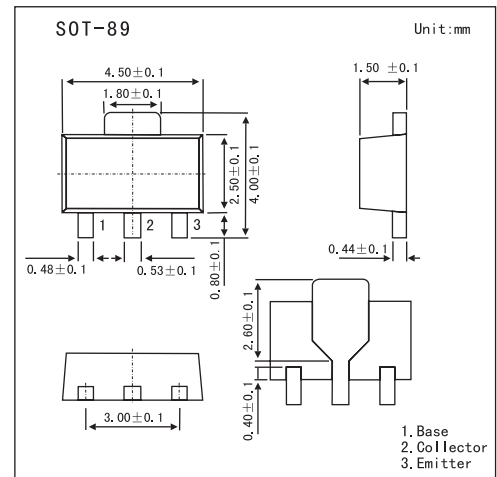


NPN Silicon Epitaxia

2SD2402

■ Features

- High current capacitance.
- Low collector saturation voltage.

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	50	V
Collector-emitter voltage	V_{CE0}	30	V
Emitter-base voltage	V_{EB0}	6	V
Collector current	I_C	5	A
Collector current (pulse) *	I_{CP}	8	A
Base current	I_B	0.2	A
Base current (pulse) *	I_{BP}	0.4	A
Total power dissipation	P_T	2	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* $PW \leq 10$ ms, duty cycle ≤ 50 %

2SD2402

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	IcBO	V _{CB} = 50 V, I _E = 0			100	nA
Emitter cutoff current	I _{EBO}	V _{EB} = 6.0 V, I _C = 0			100	nA
DC current gain *	hFE 1	V _{CE} = 1.0 V, I _C = 1.0 A	80			
	hFE 2	V _{CE} = 1.0 V, I _C = 2.0 A	100	200	400	
Base to emitter voltage *	V _{BE}	V _{CE} = 1.0 V, I _C = 0.1 A	600	650	700	mV
Collector saturation voltage	V _{CE(sat) 1}	I _C = 3 V, I _B = 0.15 A		140	300	mV
	V _{CE(sat) 2}	I _C = 5 V, I _B = 0.25 A		230	500	mV
Base saturation voltage	V _{BE(sat)}	I _C = 3 V, I _B = 0.15 A		0.88	1.2	V
Gain bandwidth product	f _T	V _{CE} = 10 V, I _E = -0.5 A		170		MHz
Output capacitance	C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1.0 MHz		60		pF
Turn-on time	t _{on}	I _C = 2.0 A, V _{CC} = 10 V I _{B1} = -I _{B2} = 0.1 A R _L = 500Ω		275		ns
Storage time	t _{stg}			485		ns
Fall time	t _f			45		ns

■ hFE Classification

Marking	EX	EY	EZ
hFE	100~200	160~320	200~400